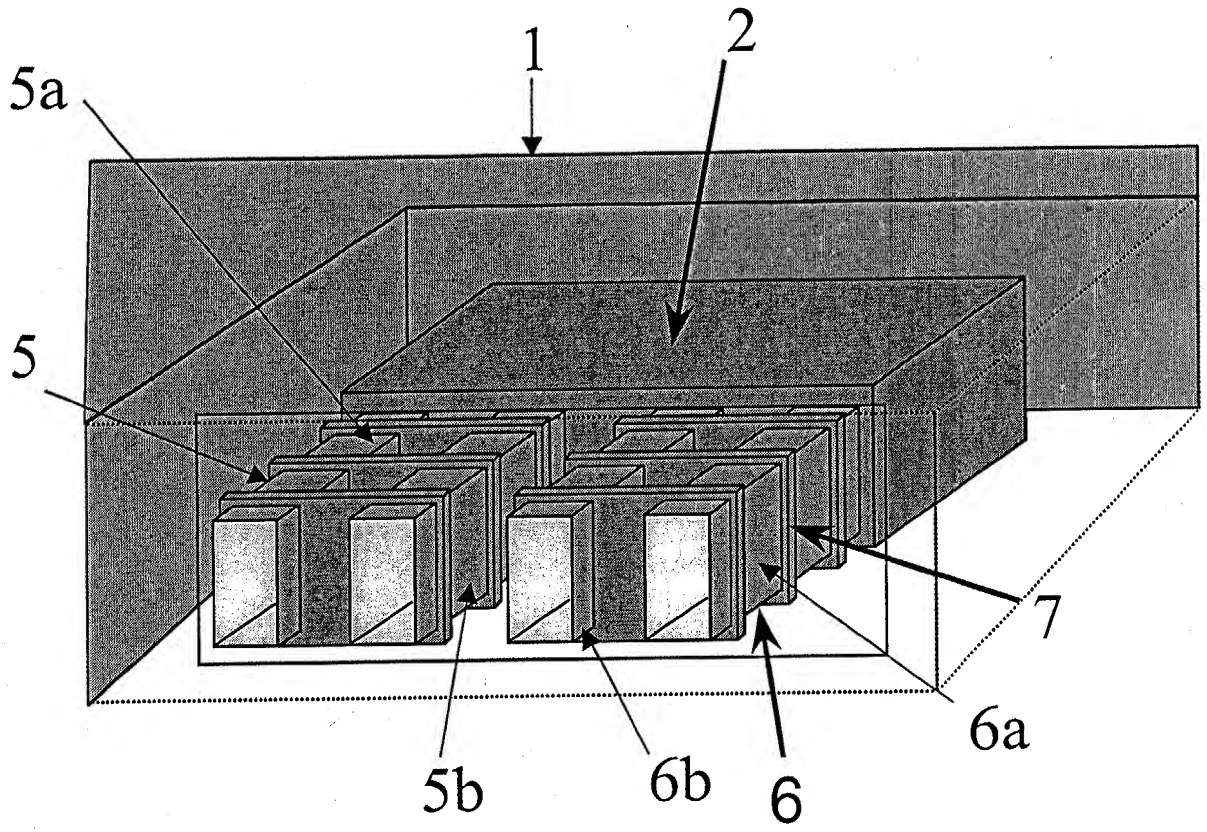

FIGURE 1(a)

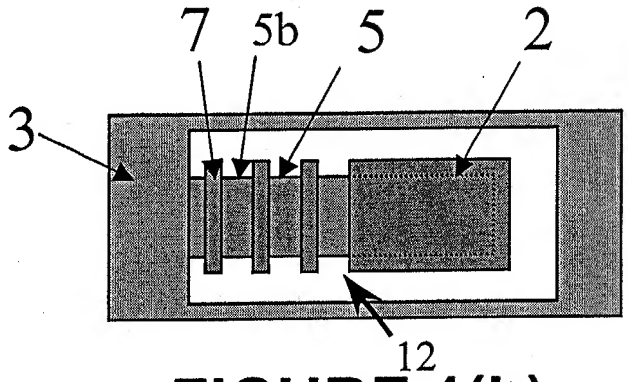

FIGURE 1(b)

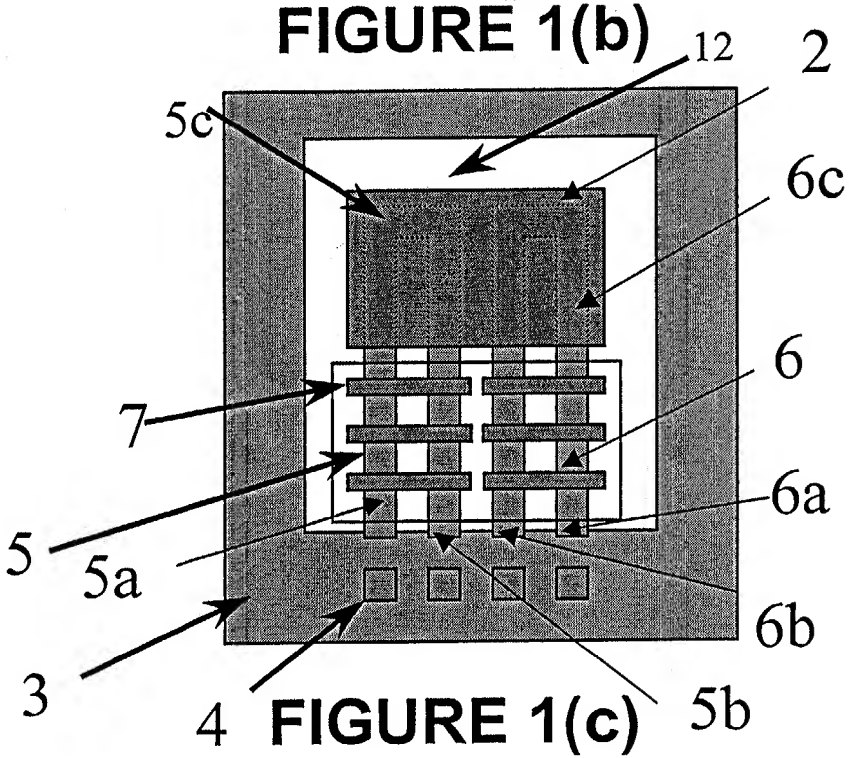

FIGURE 1(c)

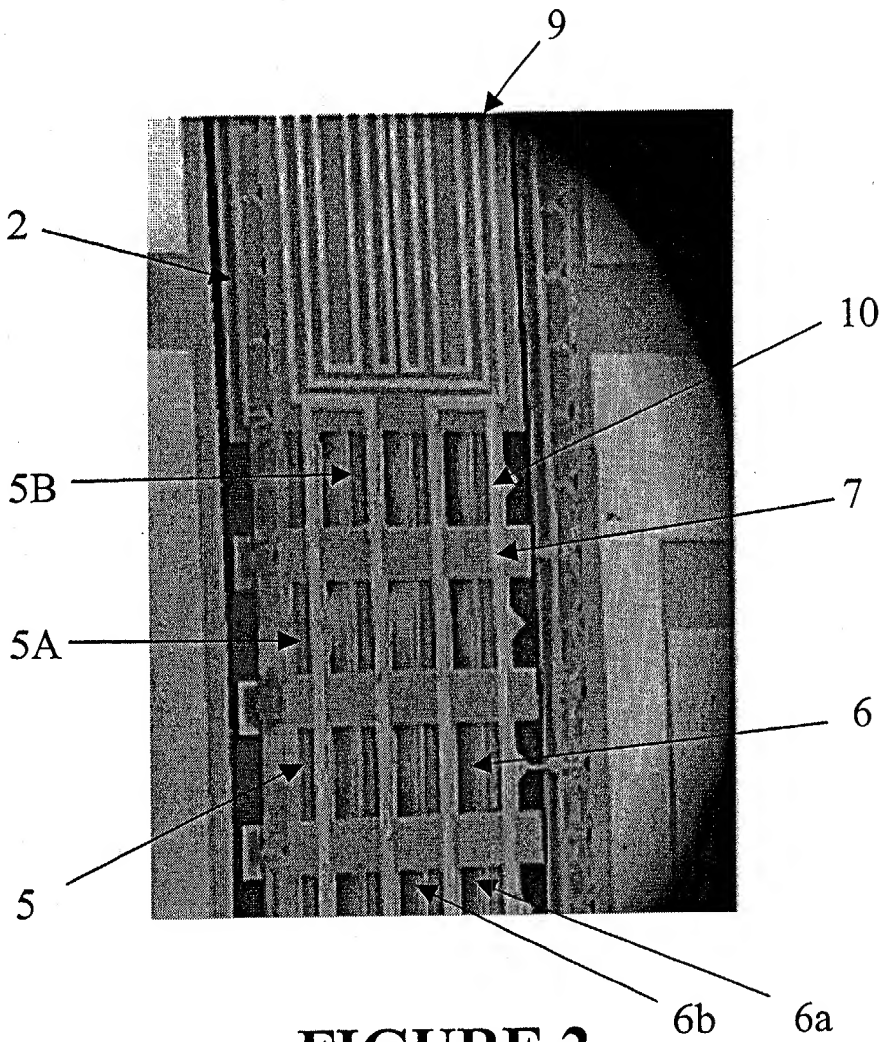

FIGURE 2

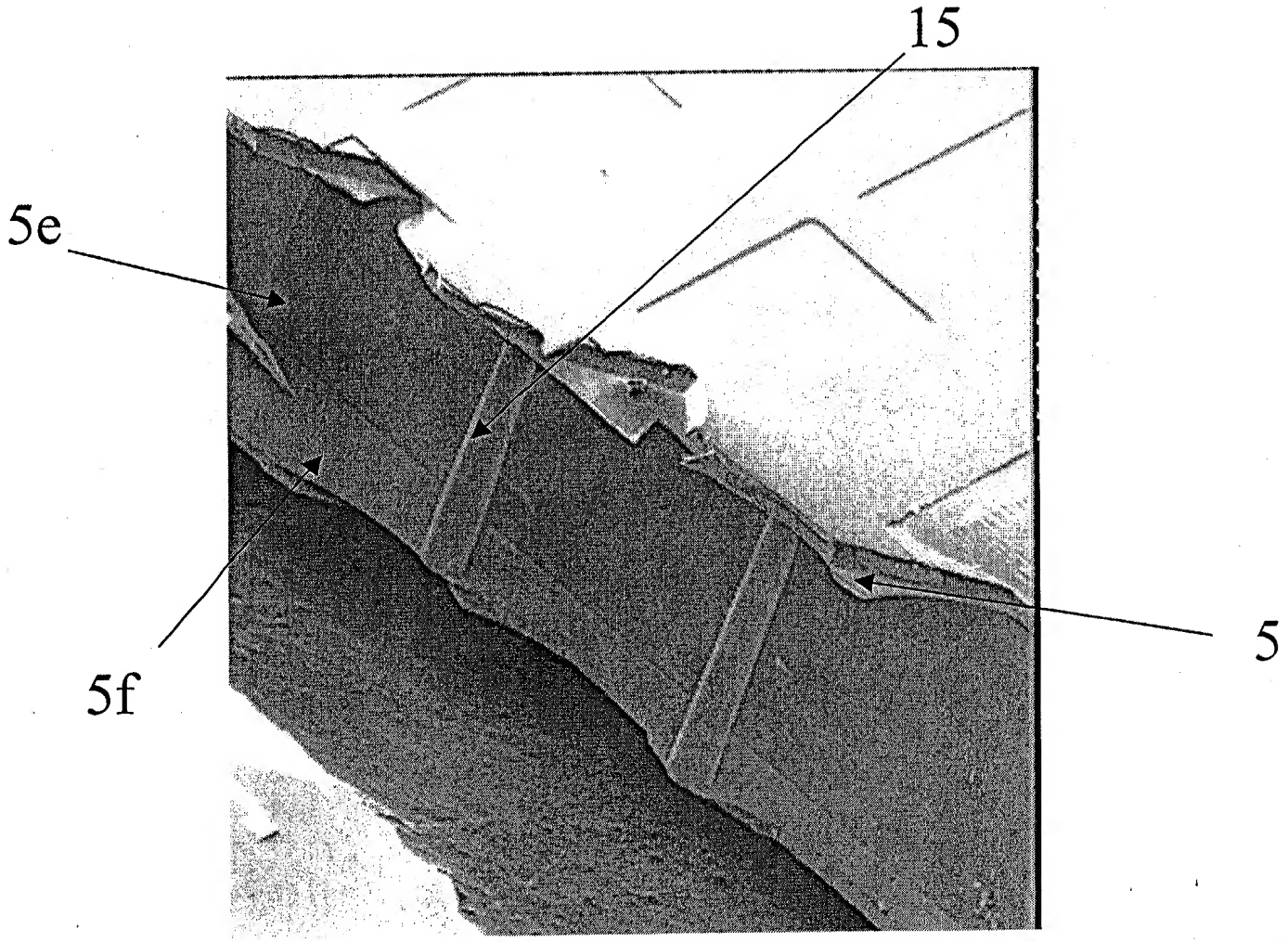

FIGURE 3

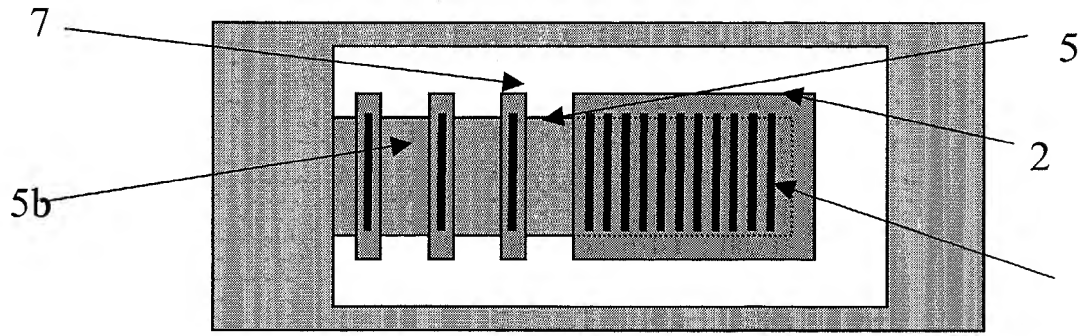

FIGURE 4(a)

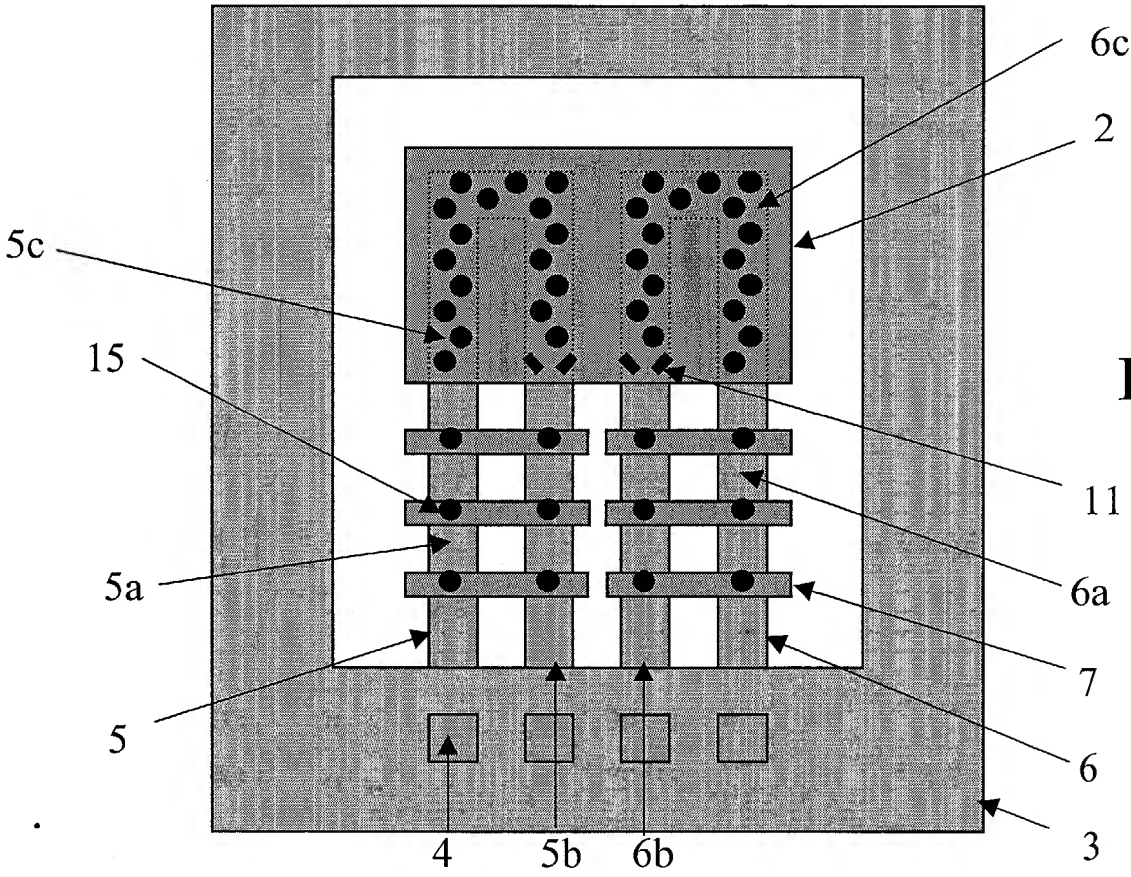

FIGURE 4(b)

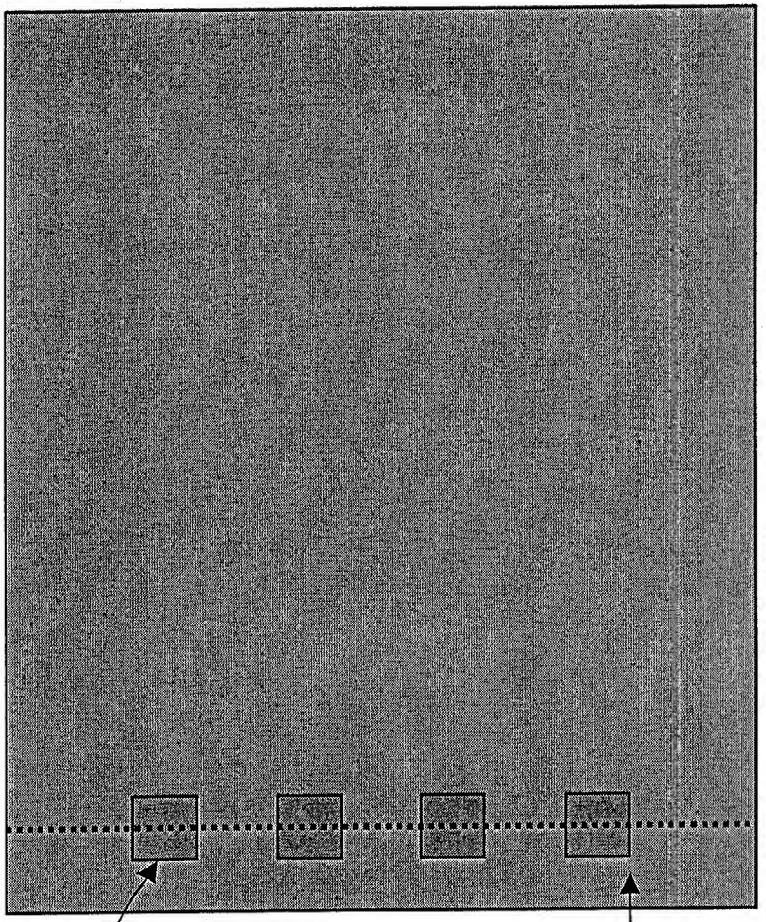

FIGURE 5(a)

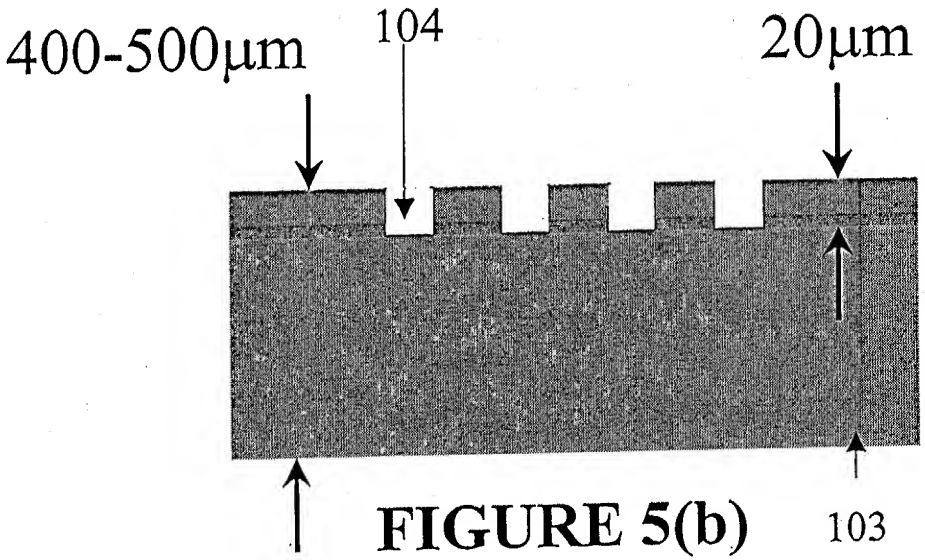

FIGURE 5(b)

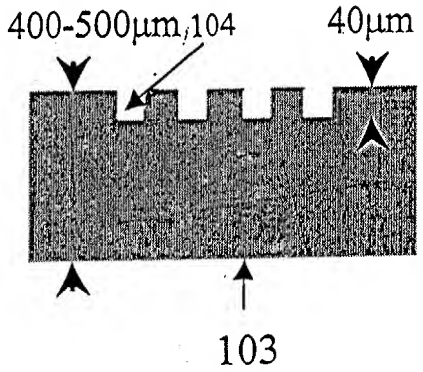

FIGURE 5(c)

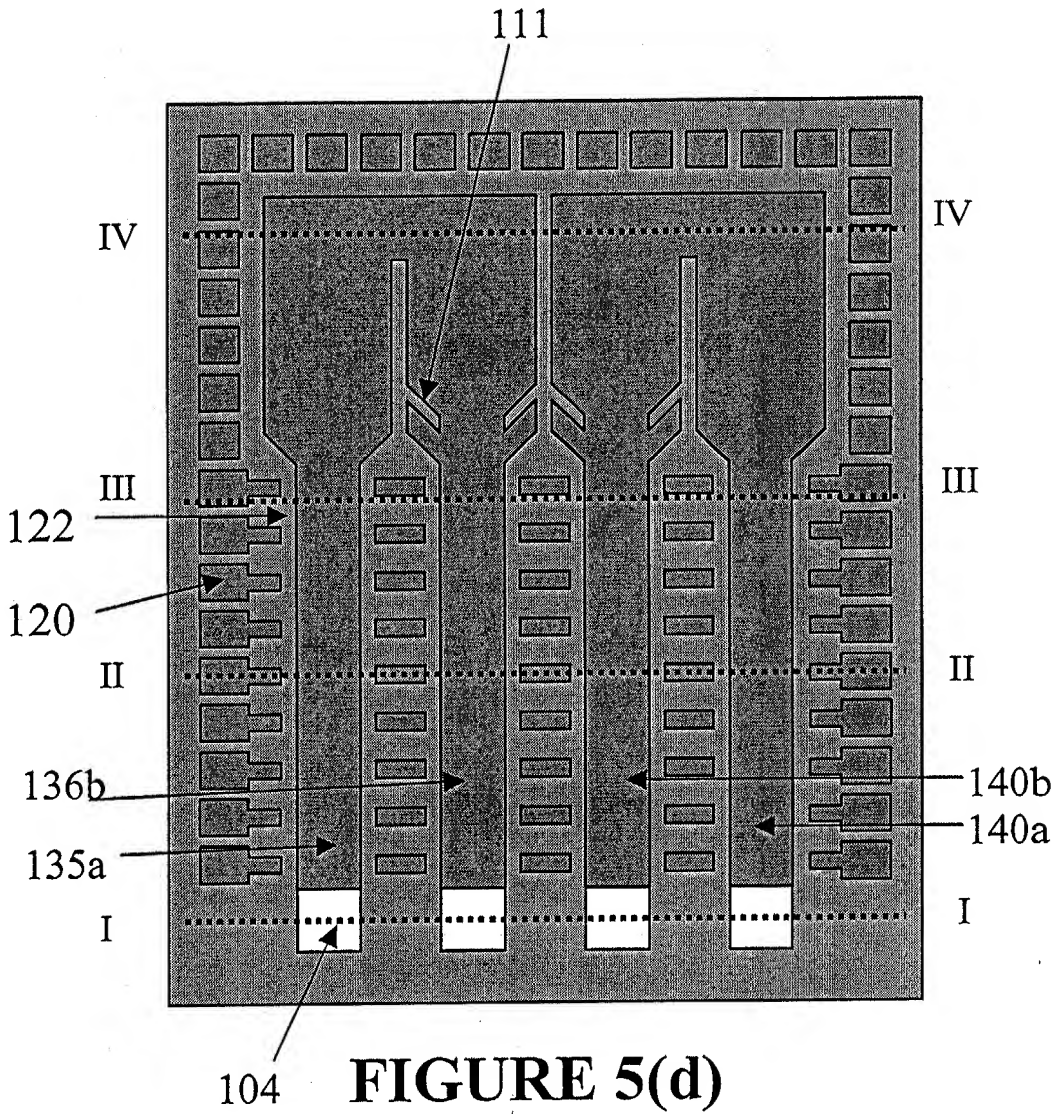

FIGURE 5(d)

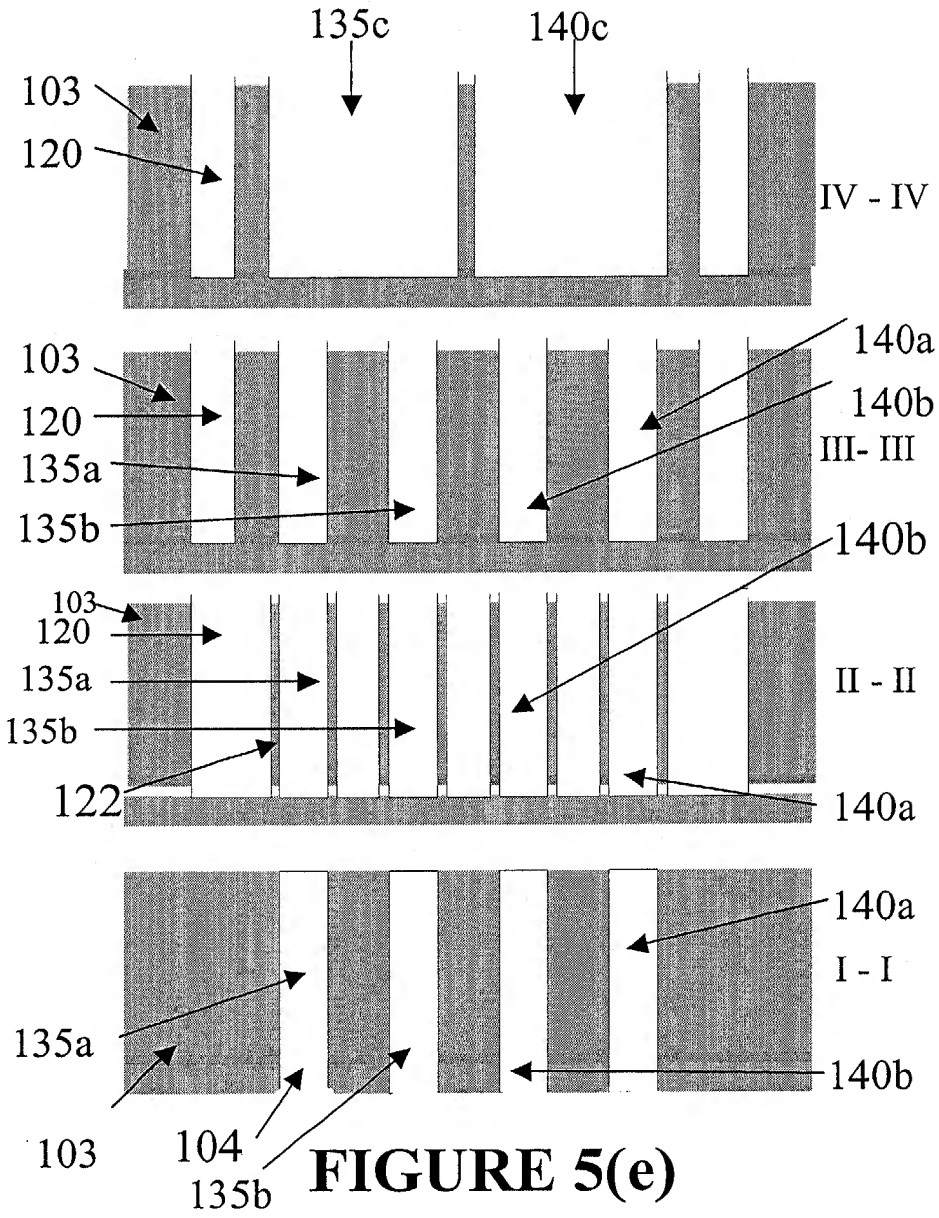

FIGURE 5(e)

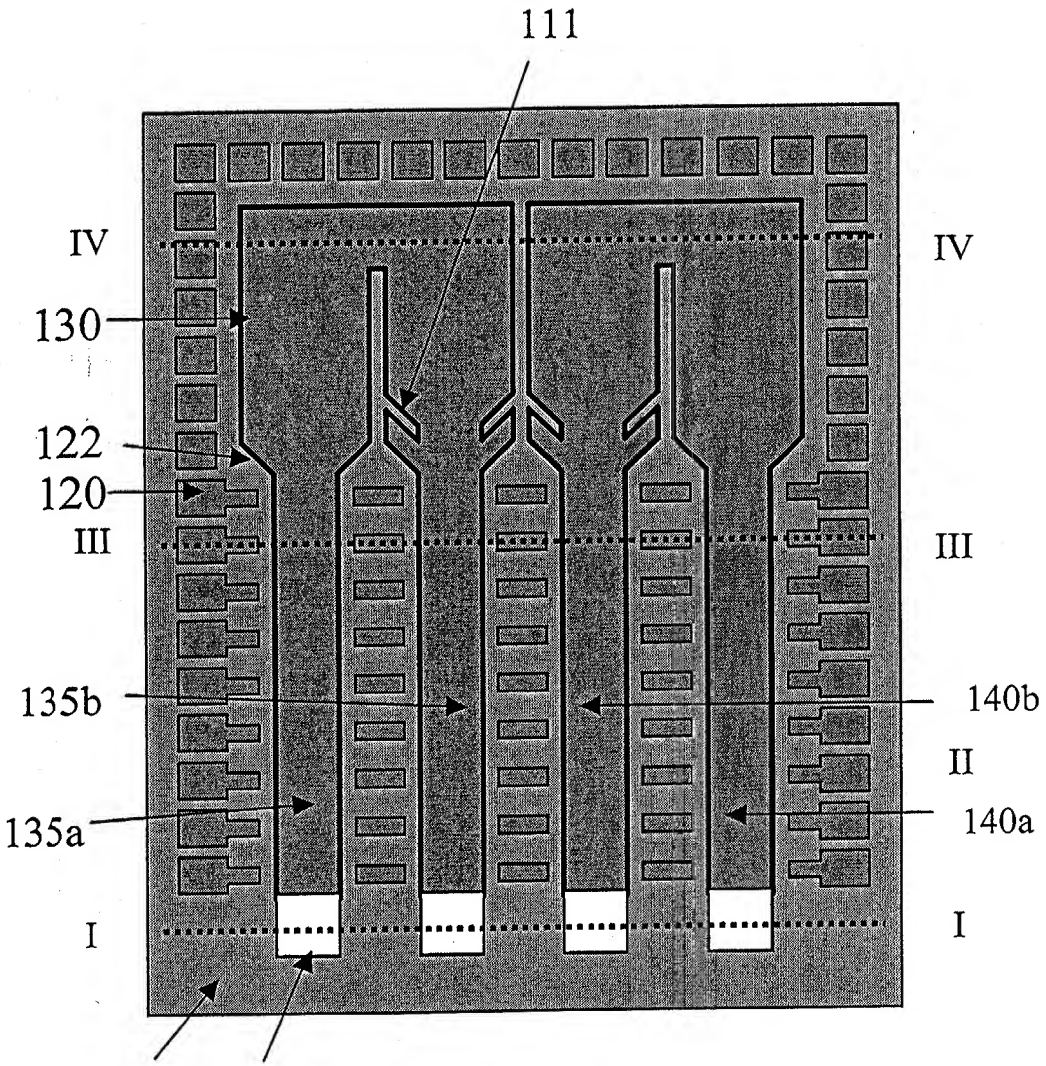

FIGURE 5(f)

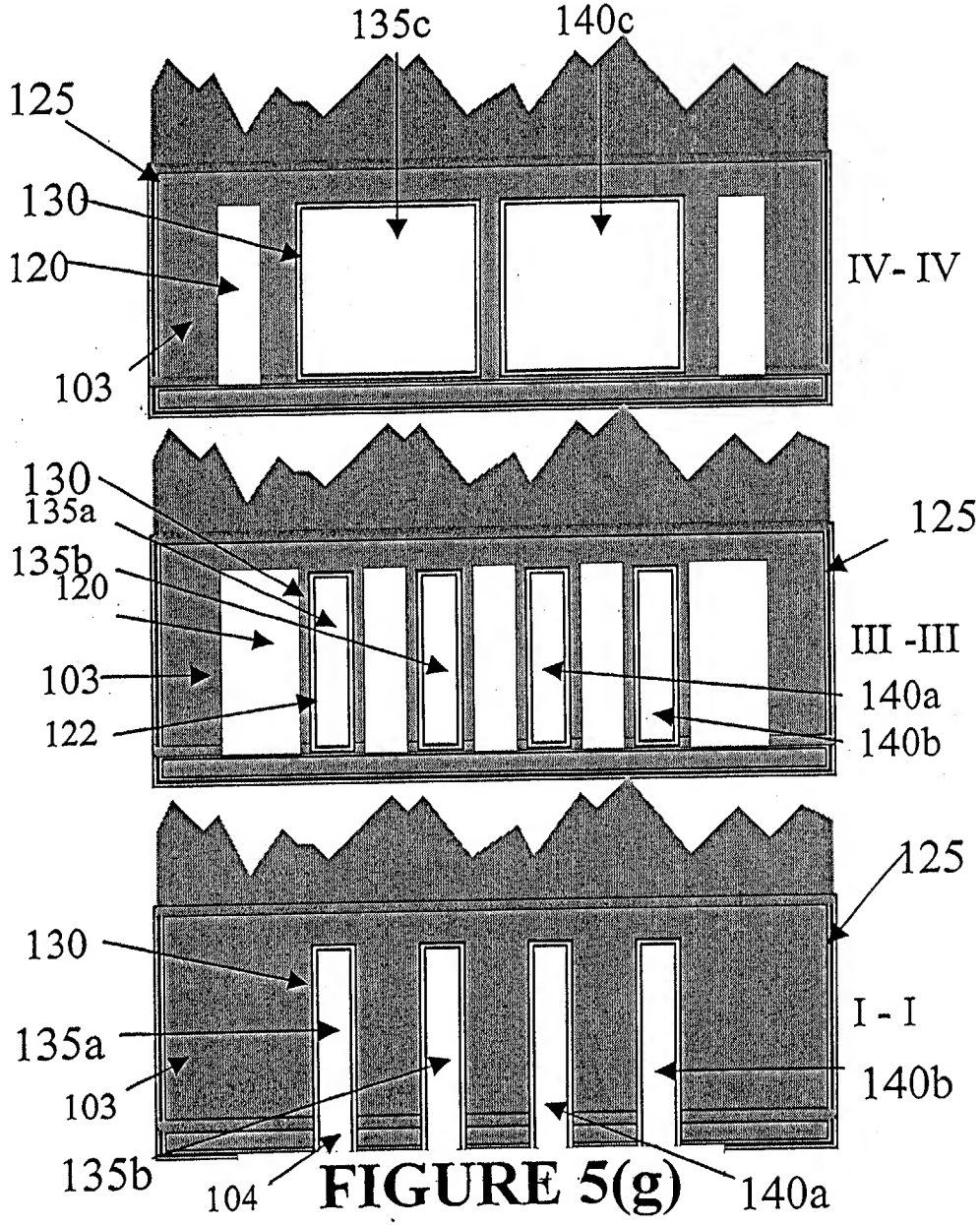

FIGURE 5(g)

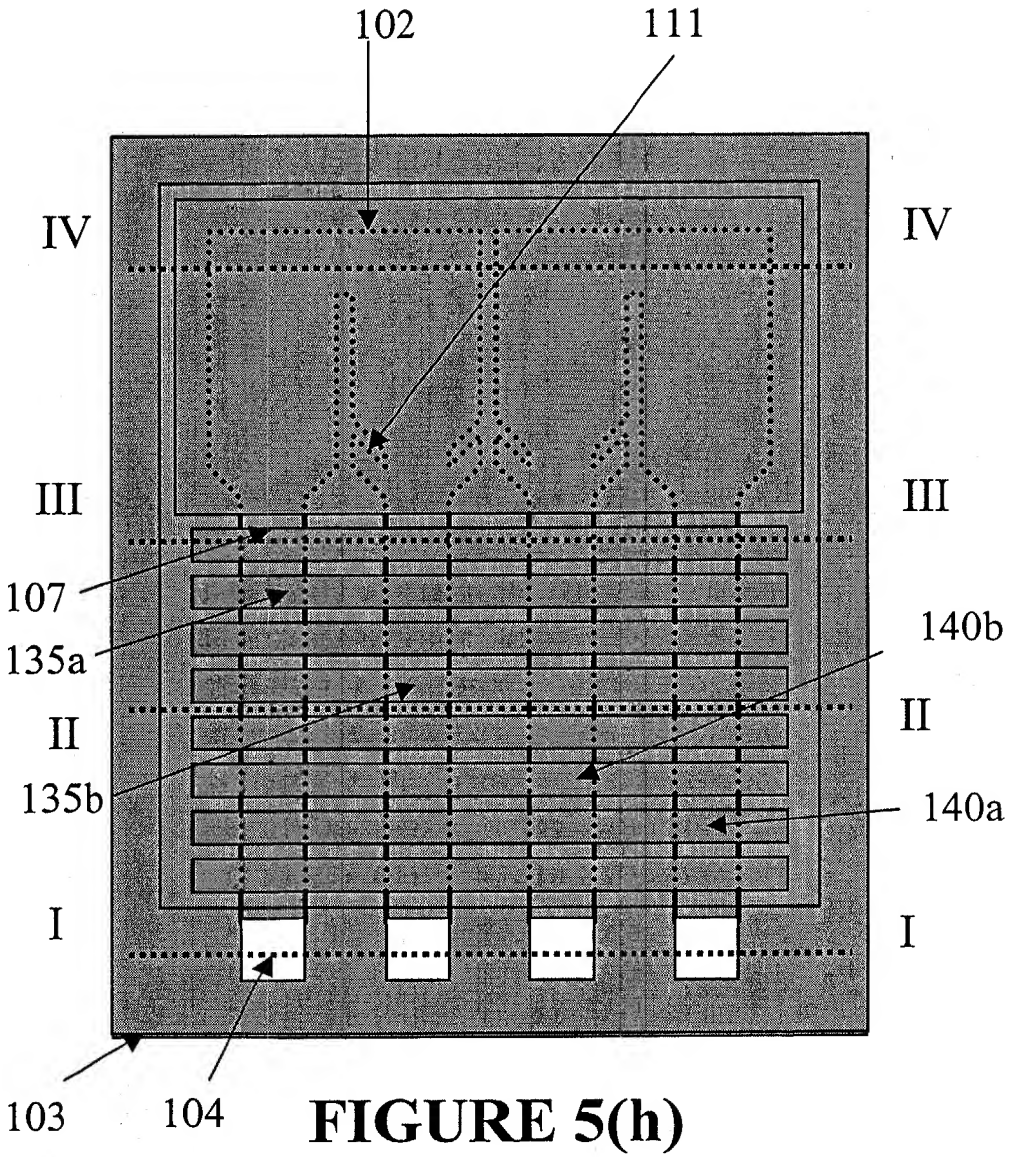

FIGURE 5(h)

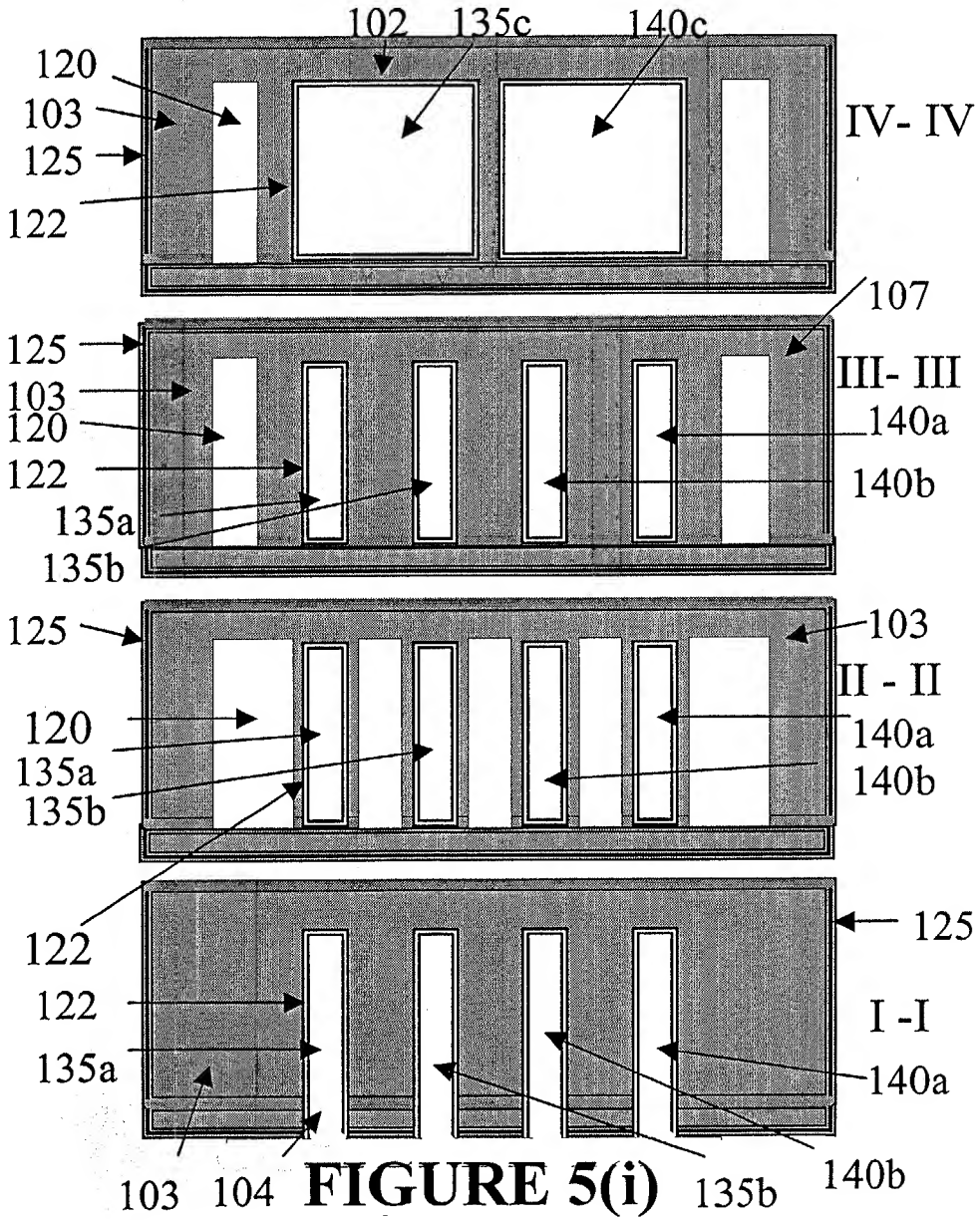
102
135c
140c
120
103
125
122
IV- IV
107
125
103
120
122
135a
135b
III- III
140a
140b
125
103
120
135a
135b
II - II
140a
140b
122
125
122
135a
I -I
140a
103
104
135b
140b

FIGURE 5(i)

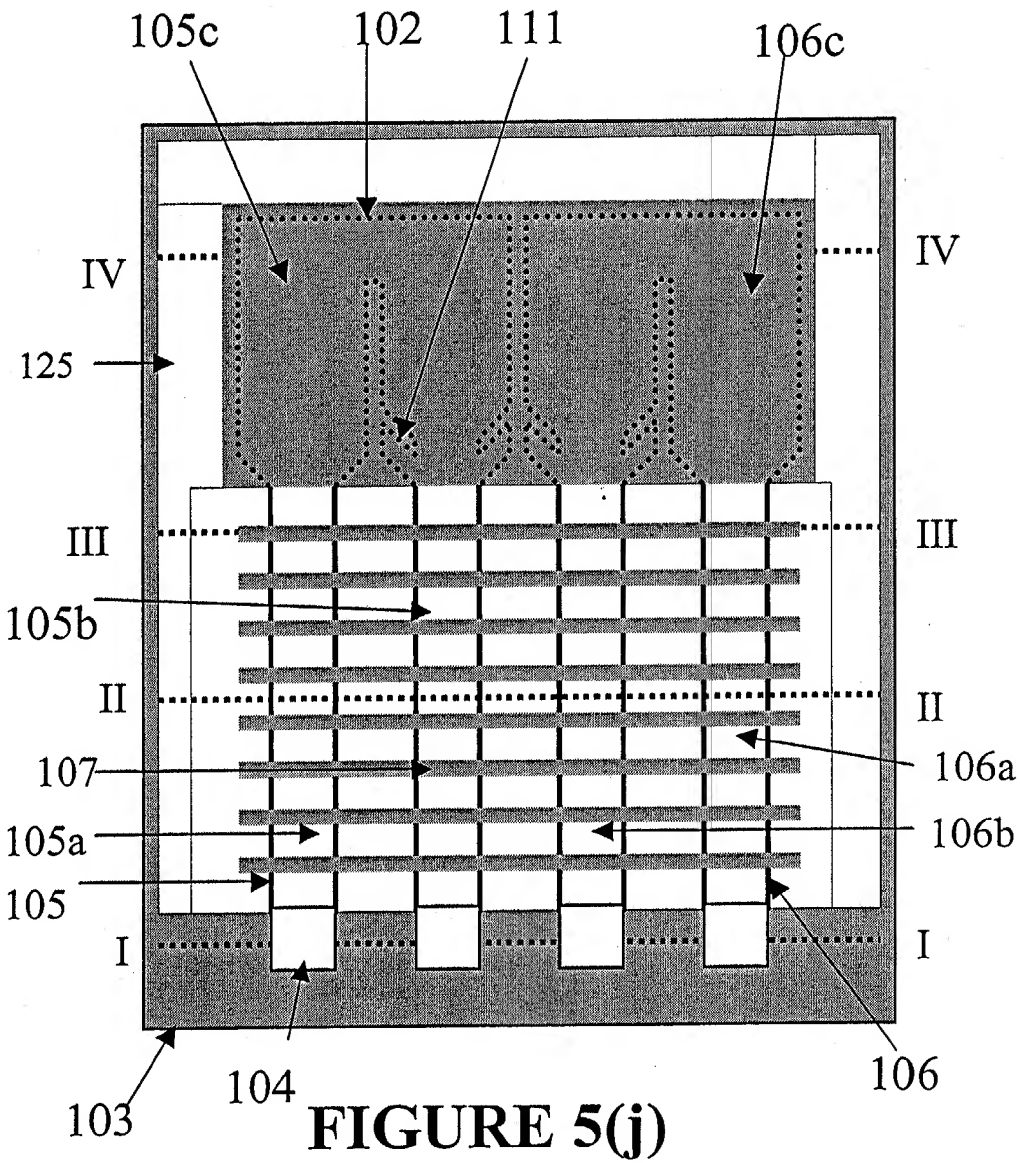

FIGURE 5(j)

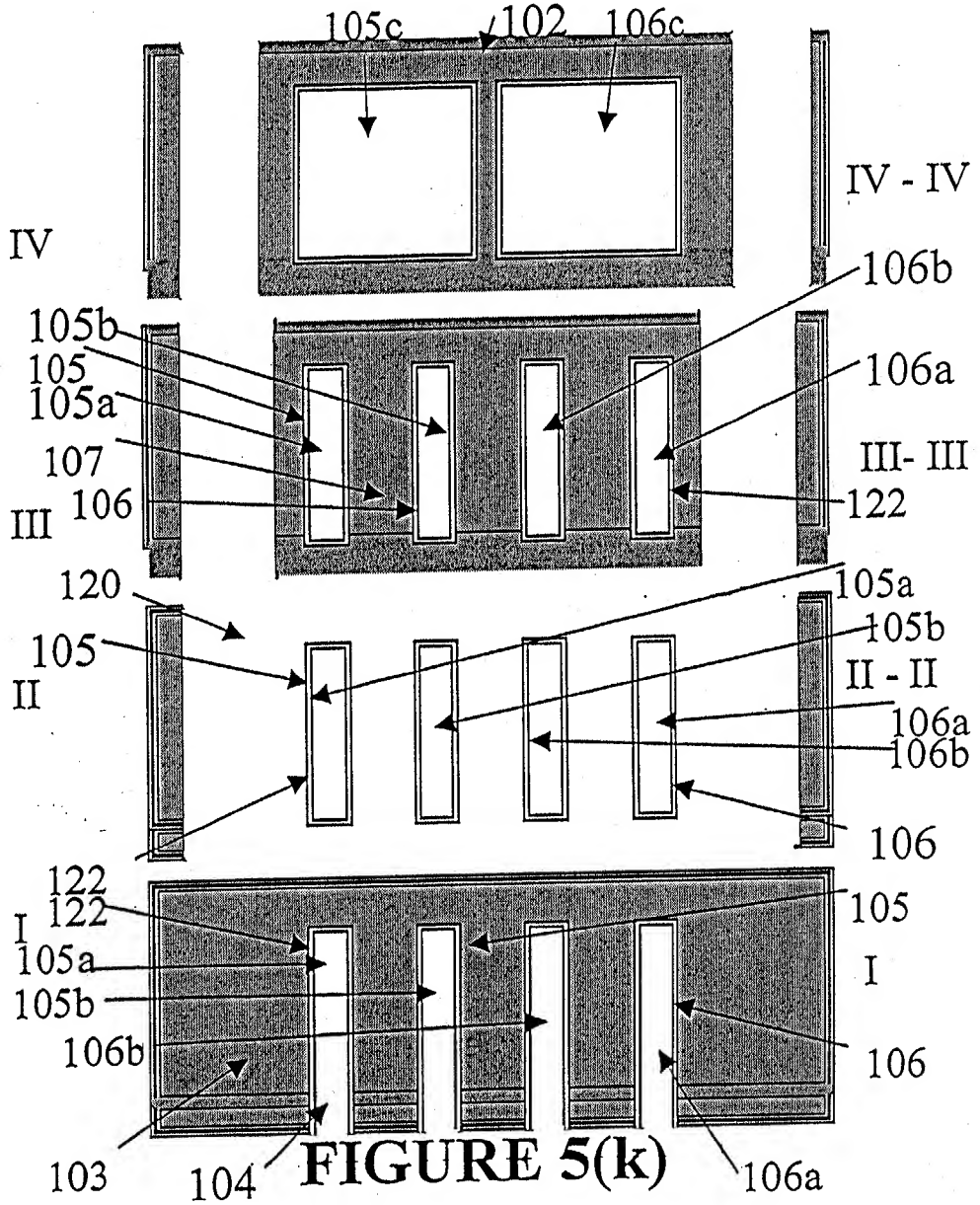
105c
102
106c
IV - IV
IV
106b
105b
105
105a
106a
107
III- III
III
106
122
120
105a
105
105b
II - II
II
106a
106b
106
122
122
105
I
105a
I
105b
106b
106
103
104
106a

FIGURE 5(k)

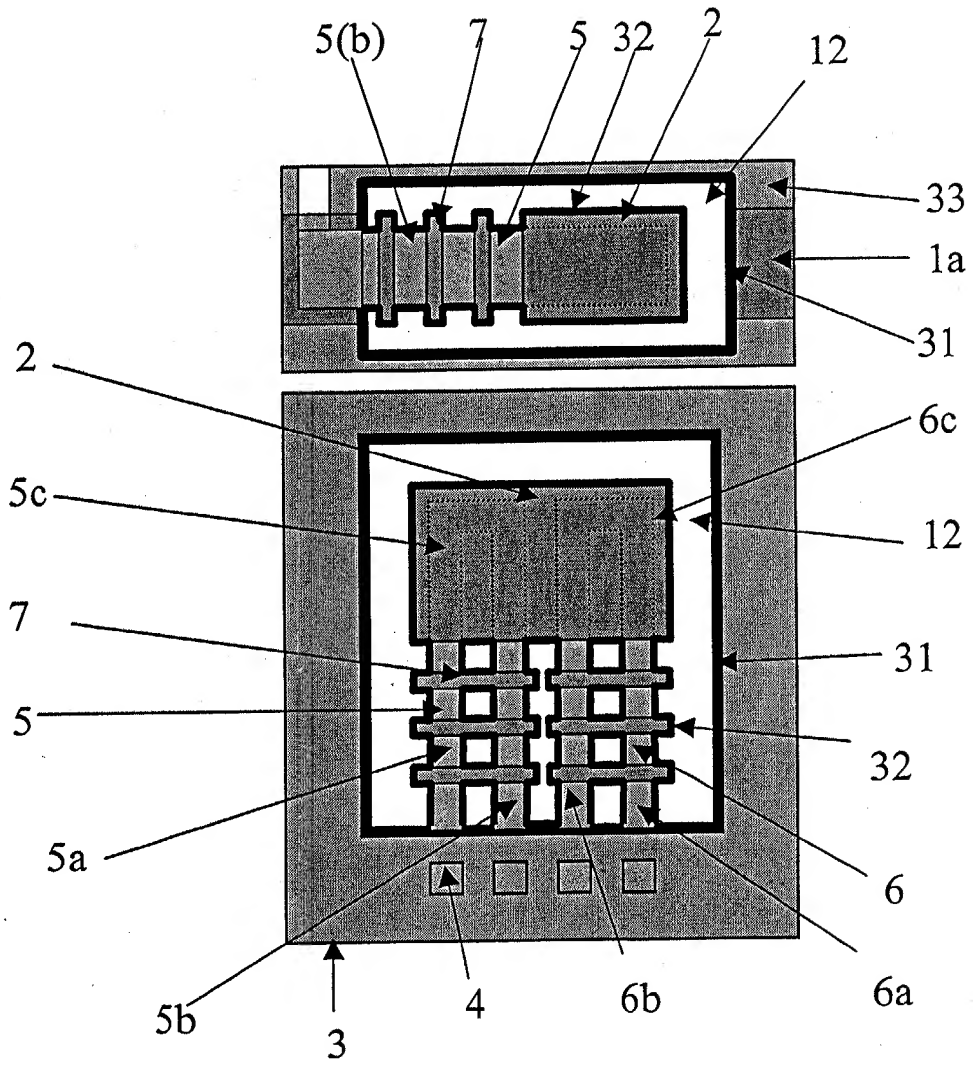

FIGURE 6(b)

FIGURE 6(a)

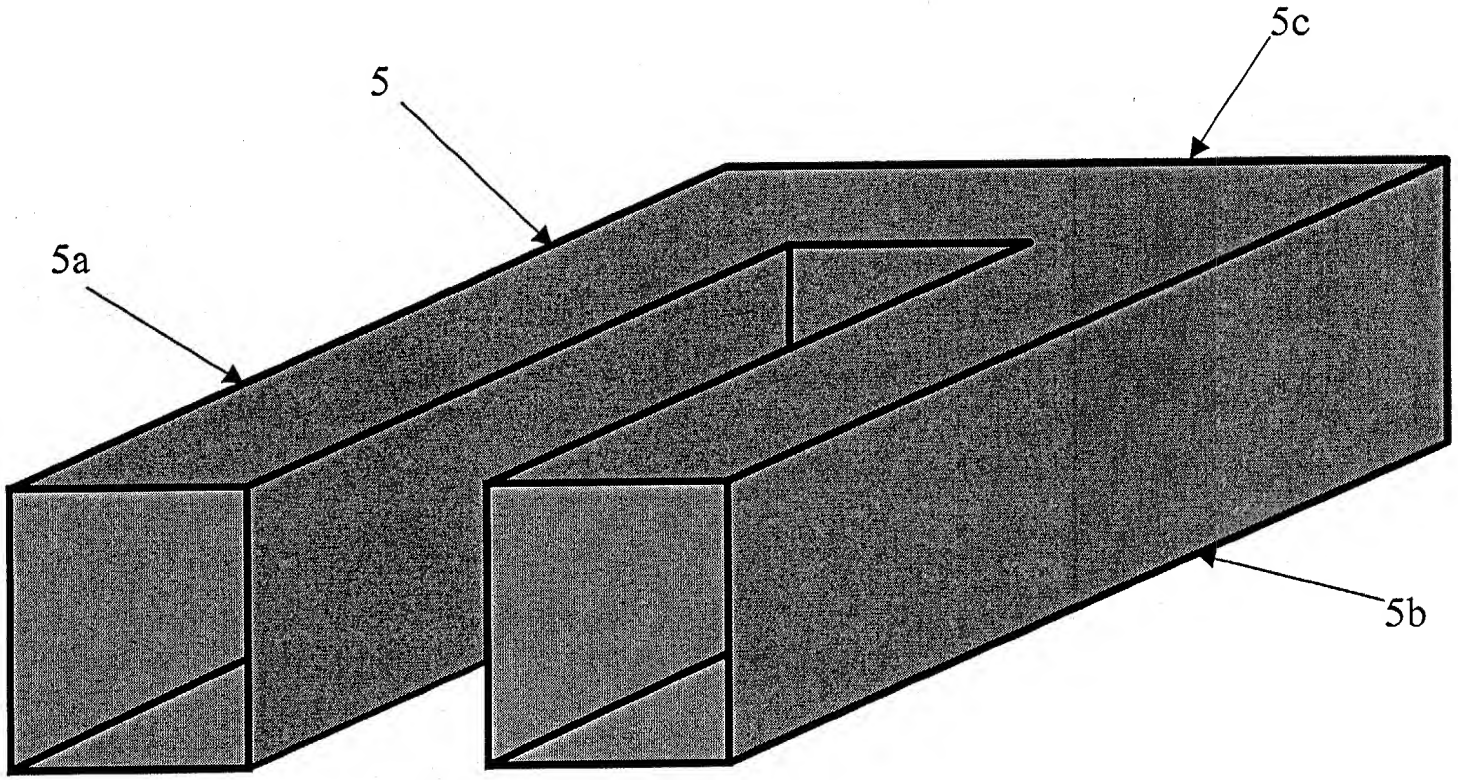

FIGURE 7

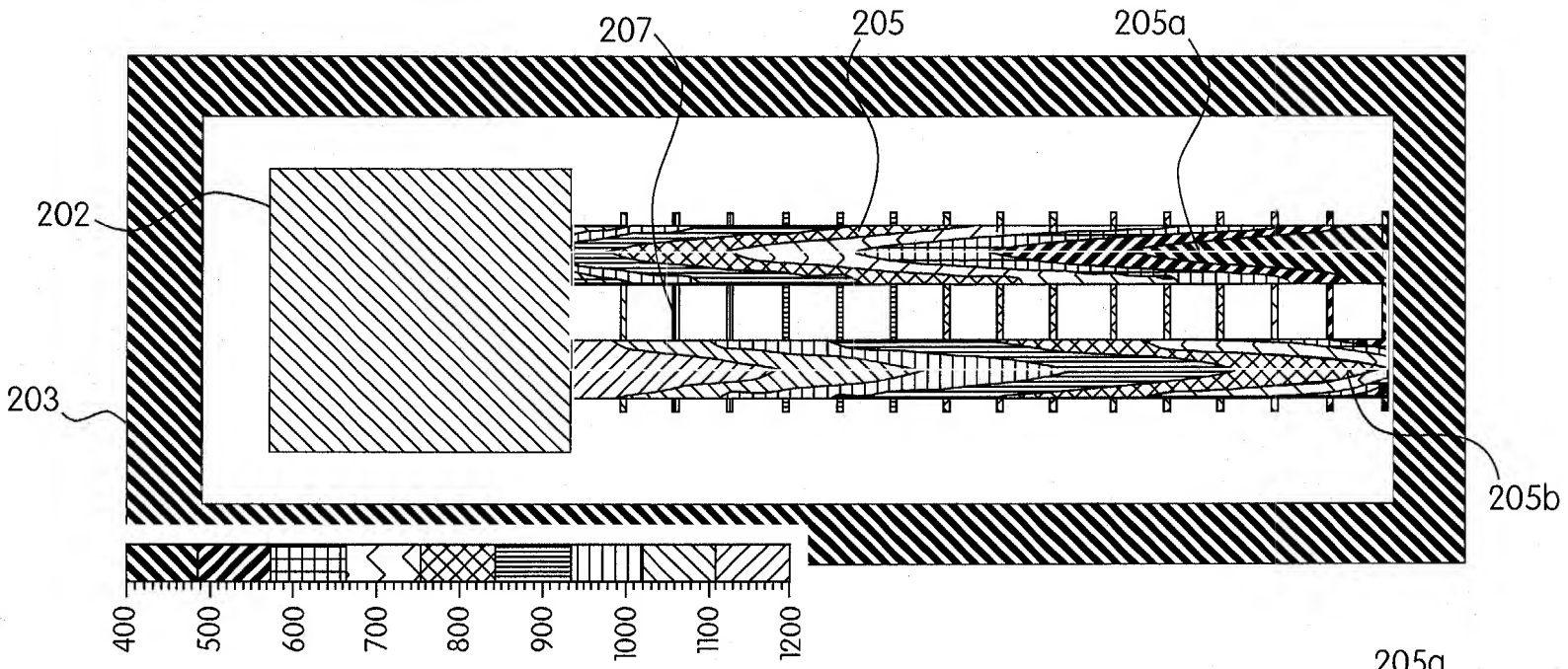

FIGURE 8a

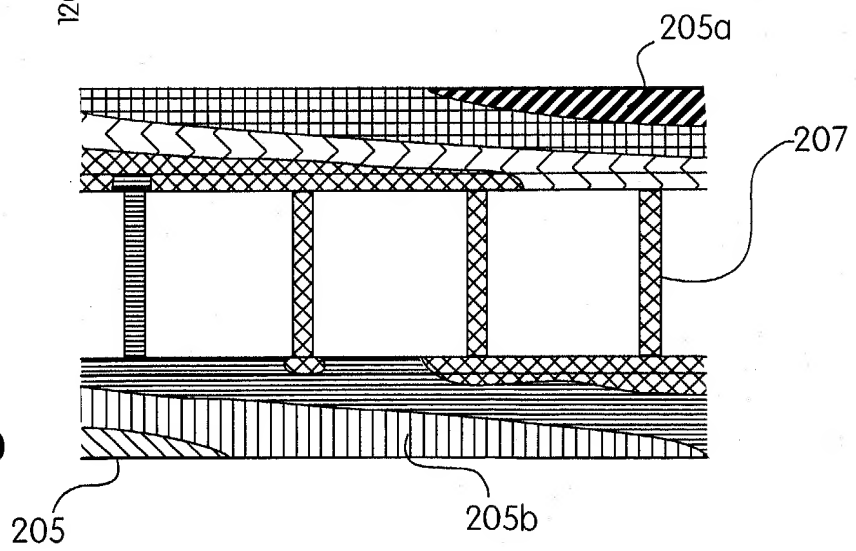

FIGURE 8b

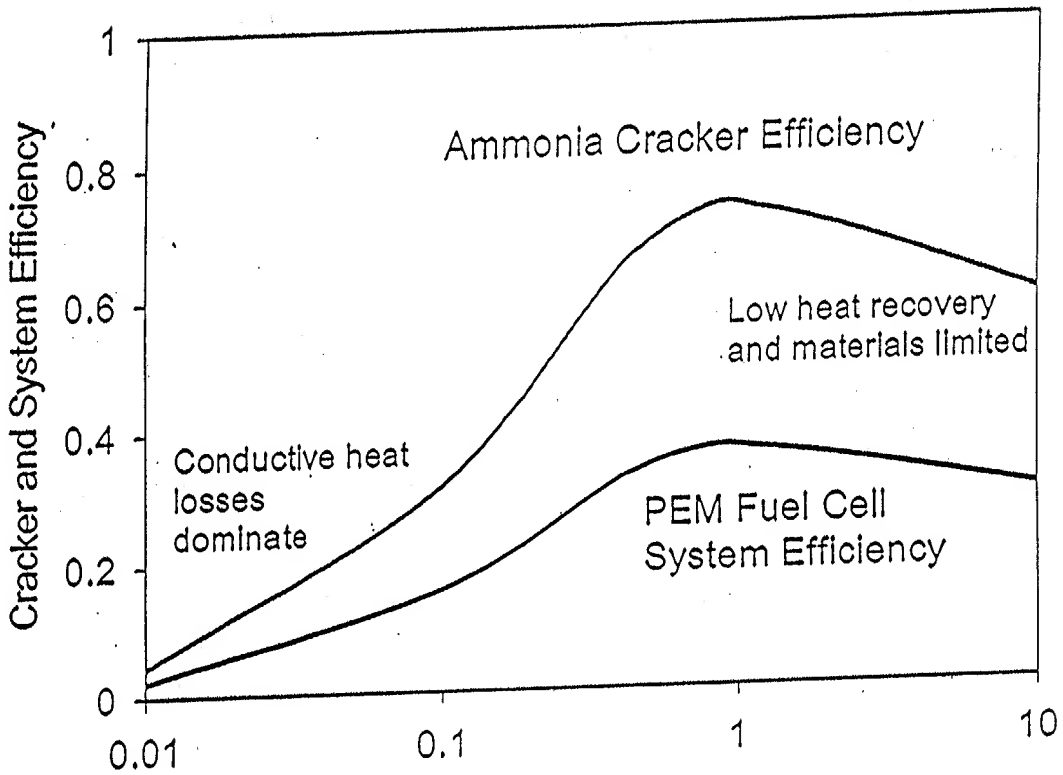
Cracker and System Efficiency
1
0.8
0.6
0.4
0.2
0
0.01
0.1
1
10
Ammonia Cracker Efficiency
Low heat recovery
and materials limited
Conductive heat
losses
dominate
PEM Fuel Cell
System Efficiency
System Power Output (w)

FIGURE 9

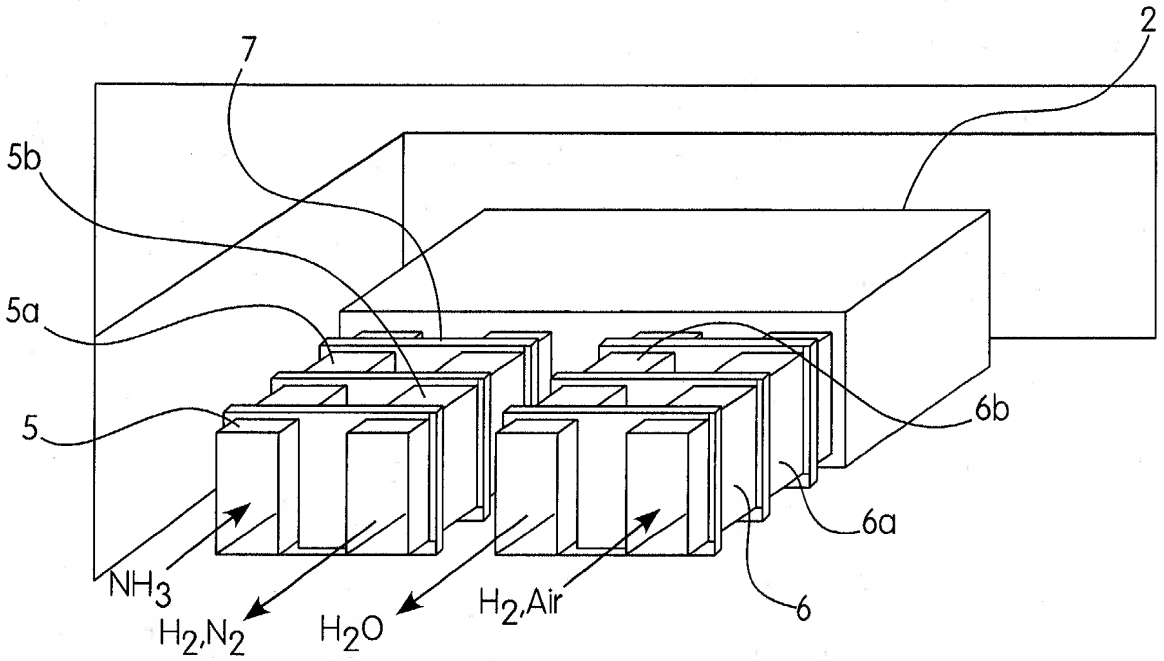

FIGURE 10a

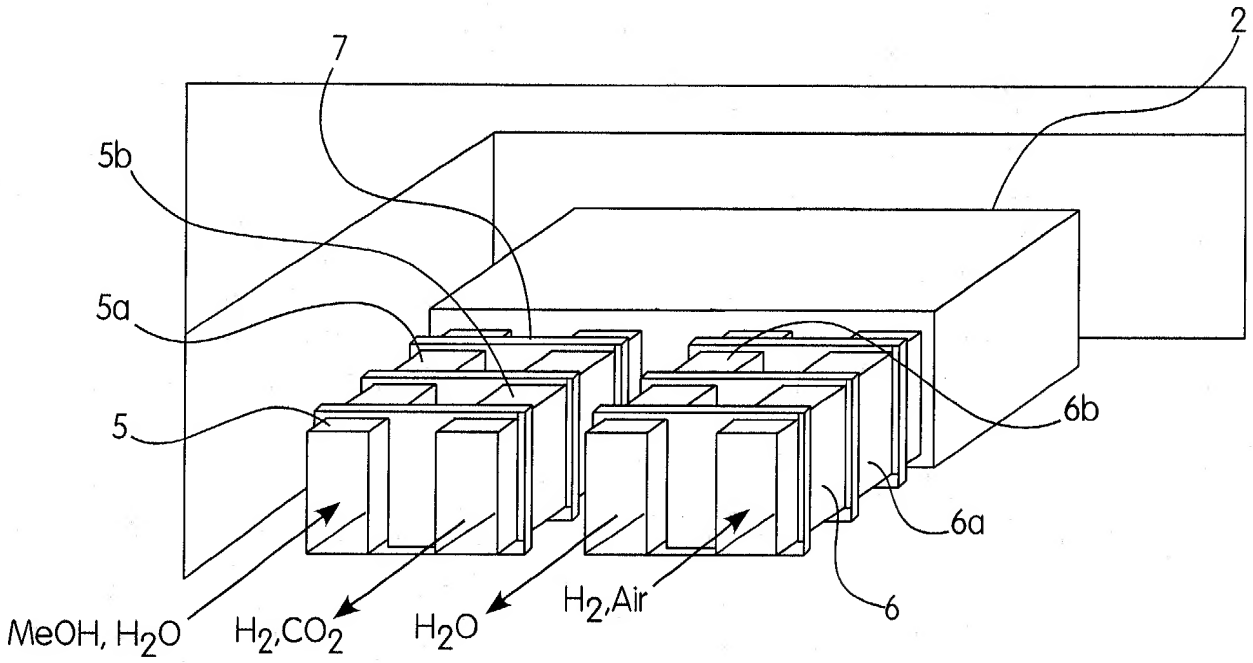

FIGURE 10b

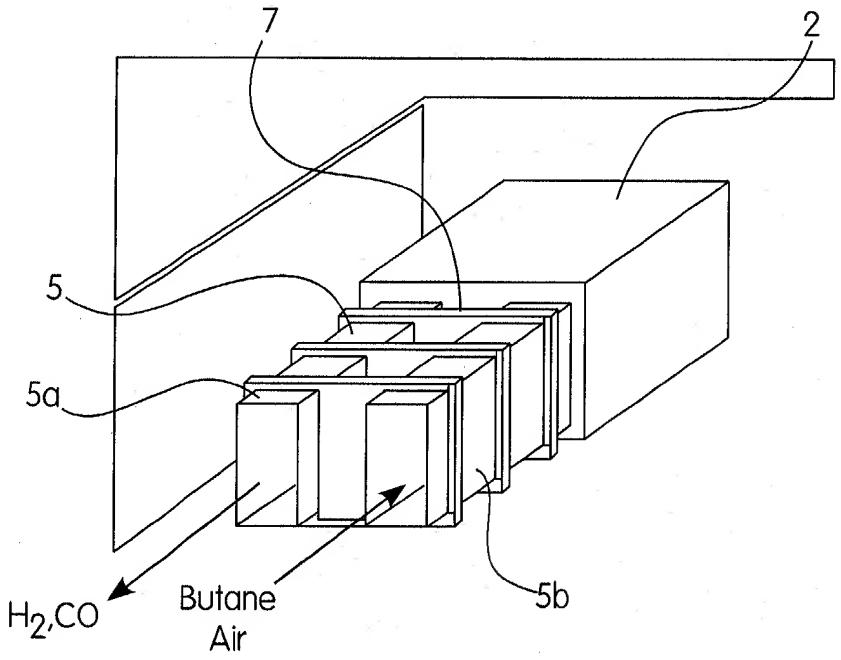

FIGURE 10c

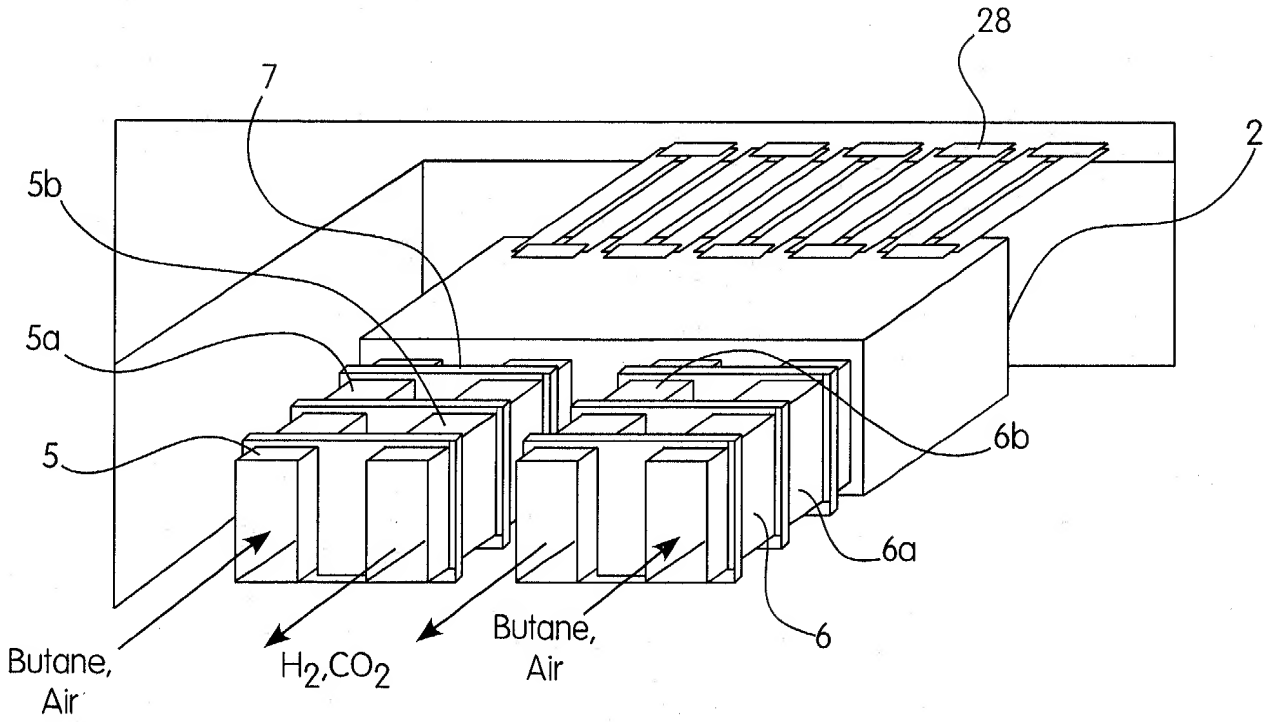

FIGURE 10d

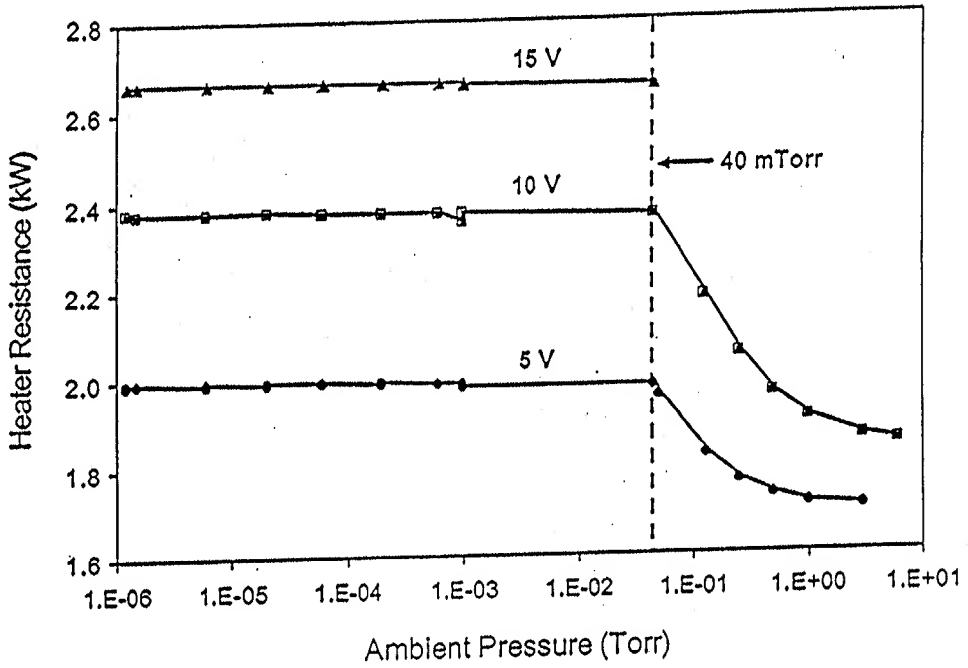
2.8
2.6
2.4
2.2
2.0
1.8
1.6
Heater Resistance (kW)
15 V
10 V
5 V
40 mTorr
1.E-06
1.E-05
1.E-04
1.E-03
1.E-02
1.E-01
1.E+00
1.E+01
Ambient Pressure (Torr)

FIGURE 11

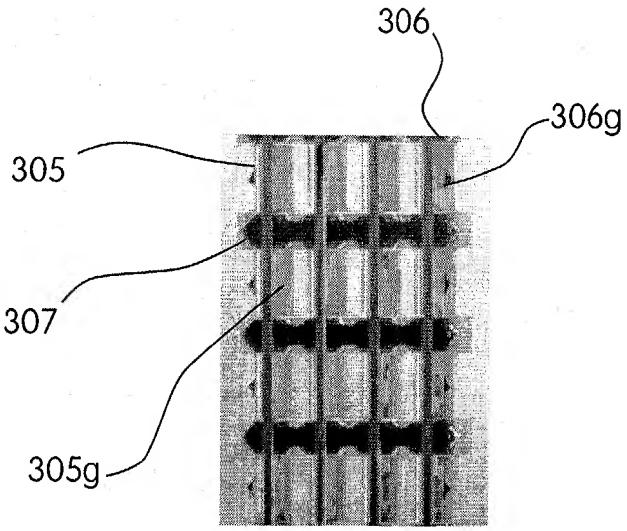

FIGURE 12a

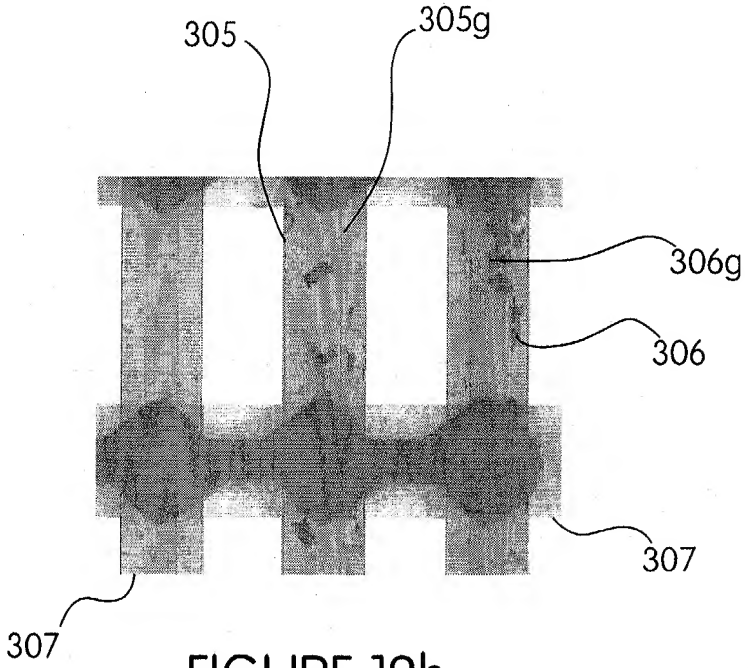

FIGURE 12b

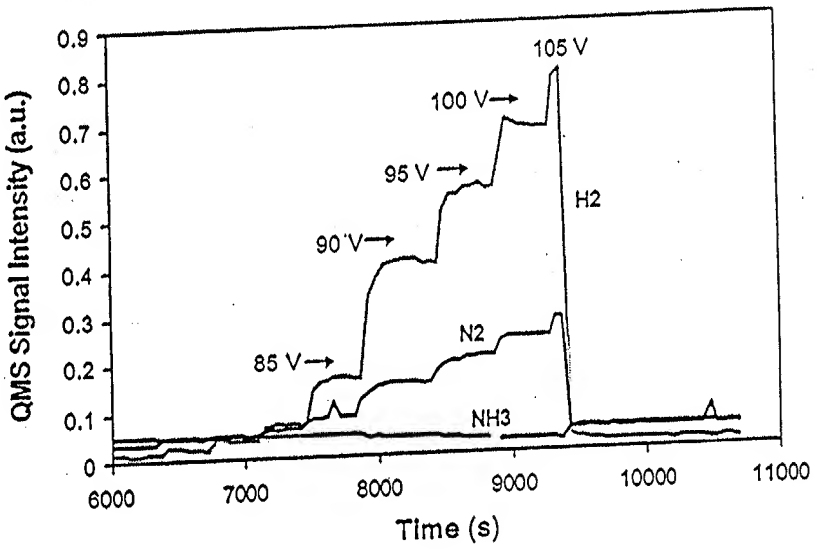
QMS Signal Intensity (a.u.)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
6000
7000
8000
9000
10000
11000
Time (s)
105 V
100 V
95 V
90 V
85 V
H2
N2
NH3

FIGURE 12(c)

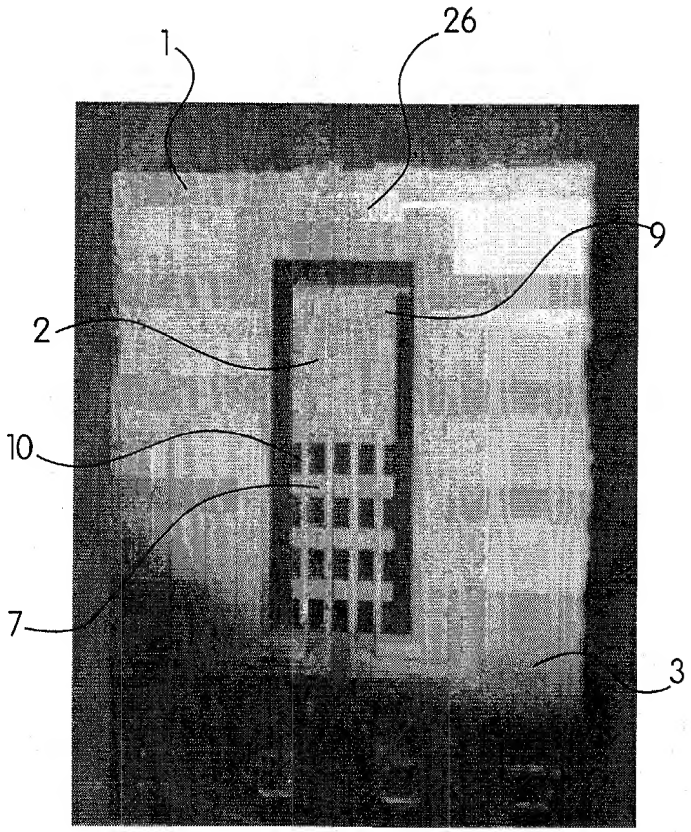

FIGURE 13a

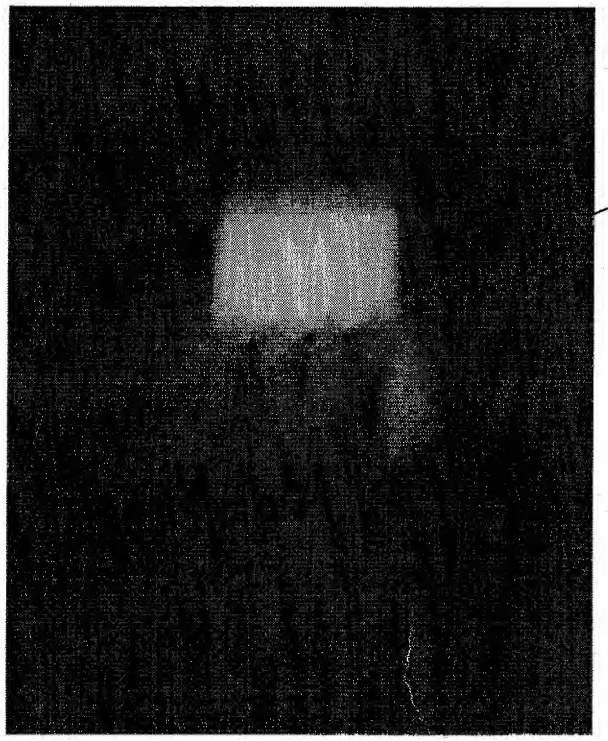

FIGURE 13b